



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,236	11/19/2003	Huiquan Liu	BYD-US2003-004	6906
33139	7590	02/13/2006	EXAMINER	
EMIL CHANG LAW OFFICES OF EMIL CHANG 874 JASMINE DRIVE SUNNYDALE, CA 94086			VANOU, TIMOTHY C	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/717,236	Applicant(s) LIU ET AL.	
	Examiner Timothy C. Vanoy	Art Unit 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/18/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement filed on Jan. 18, 2005 does not fully comply with the requirements of 37 CFR 1.98(b) because the references titled "CN 1271185" and "Zhaolin Lin et al. in J. Power Sources, 88-82 (1999), pp. 416-419" have not been provided. Since the submission appears to be *bona fide*, applicant is given **ONE (1) MONTH** from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statement. NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this notice will result in the above mentioned information disclosure statement being placed in the application file with the noncomplying information **not** being considered. See 37 CFR 1.97(i).

Specification

- a) On pg. 3 line 14 in the specification, "chromium" is disclosed, however it may have been the applicants' intention to recite "cobalt" instead (consistent with the rest of the specification).
- b) The abstract is objected to because it is not in the form of a single paragraph.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

A claim that omits matter disclosed to be essential to the invention as described in the specification may be rejected under 35USC112, first paragraph as not enabling. Such essential matter may include missing steps. In applicants' claim 1, none of the steps are set forth for the step of preparing the carbonate precursors, or for the step of preparing compounds of lithium transition metals oxide. These omitted steps are essential to the practice of the applicants' invention. Please see the discussion of the *In re Mayhew* 527 F.2d 1229, 188 USPQ 356 (CCPA 1976) court decision set forth in section 2172.01 in the MPEP 8th Ed. Rev. 3 Aug 2005.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A claim that fails to interrelate essential elements of the invention may be rejected under 35USC112, second paragraph for failure to point out and distinctly claim the invention. Applicants' claim 1 does not particularly point out and distinctly set forth any of the steps for the step of preparing the carbonate precursors, or for the step of preparing compounds of lithium transition metals oxide. These omitted steps are essential to the practice of the applicants' invention. Please see the discussion of the *In re Venezia* 530 F.2d 956, 189 USPQ 149 (CCPA 1976) court decision set forth in section 2172.01 in the MPEP 8th Ed. Rev. 3 Aug 2005.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent 5,160,712 to Thackeray et al.

Example 1 set forth in col. 5 line 65 to col. 6 line 15 in U. S. Patent 5,160,712 describes a method for preparing LiCoO_2 by calcining a mixture of Li_2CO_3 and CoCO_3 to obtain the LiCoO_2 .

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent 5,783,333 to Mayer.

Col. 11 line 36 to col. 12 line 3 describes a method for preparing $\text{Li}_x\text{Ni}_y\text{Co}_z\text{M}_n\text{O}_2$ by mixing CoCO_3 , NiCO_3 and a metal compound and thermally reacting the mixture at a temperature of 500 to 1,300 °C to obtain $\text{Li}_x\text{Ni}_y\text{Co}_z\text{M}_n\text{O}_2$.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having ordinary skill in the art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 1754

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,160,712 to Thackeray et al.

Example 1 set forth in col. 5 line 65 to col. 6 line 15 in U. S. Patent 5,160,712 describes a method for preparing LiCoO_2 by calcining a mixture of Li_2CO_3 and CoCO_3 to obtain the LiCoO_2 .

The difference between the applicants' claim 1 and U. S. Patent 5,160,712 is that applicants' claim 1 sets forth that carbonate precursors are prepared, whereas U. S. Patent 5,160,712 provides the carbonate precursors, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because preparing the carbonate precursors by any conventional and known method is an obvious way of providing the carbonate precursors.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,783,333 to Mayer.

Art Unit: 1754

Col. 11 line 36 to col. 12 line 3 describes a method for preparing $\text{Li}_x\text{Ni}_y\text{Co}_z\text{M}_n\text{O}_2$ by mixing CoCO_3 , NiCO_3 and a metal compound and thermally reacting the mixture at a temperature of 500 to 1,300 °C to obtain $\text{Li}_x\text{Ni}_y\text{Co}_z\text{M}_n\text{O}_2$.

The difference between the applicants' claim 1 and U. S. Patent 5,783,333 is that applicants' claim 1 sets forth that carbonate precursors are prepared, whereas U. S. Patent 5,783,333 provides the carbonate precursors, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because preparing the carbonate precursors by any conventional and known method is an obvious way of providing the carbonate precursors.

The following references, which are indicative of the state of the art, are made of record:

U. S. Patent App'n. Pub. US 2004/0223906 A1 disclosing lithium nickel cobalt oxides and a method for their fabrication;

U. S. Patent App'n. Pub. US 2004/0179993 A1 disclosing a method for producing lithium ion cathode materials;

U. S. Patent 6,660,432 B2 disclosing lithiated oxide materials and methods for their manufacture, and

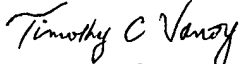
U. S. Patent 5,631,104 disclosing compounds of the general formula:



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Timothy C Vanoy
Patent Examiner
Art Unit 1754

tv